

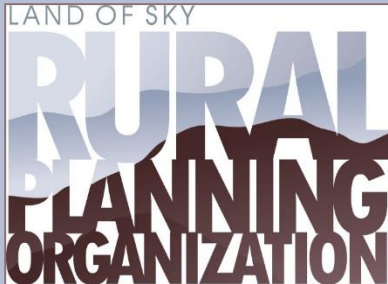
Transylvania County Comprehensive Transportation Plan (CTP) Meeting #5

NCDOT Transportation Planning Division (TPD)

Daniel Sellers, PE

Land of Sky Rural Planning Organization (LOSRPO)

Vicki Eastland



Welcome and Introductions



Vicki Eastland, LOSRPO
December 10, 2019

Agenda

3:00 PM Welcome and Introductions

3:05 PM Brief Group Discussion. Questions from previous meeting

3:08 PM Brief Recap of AADT maps

3:15 PM Review Map Comments

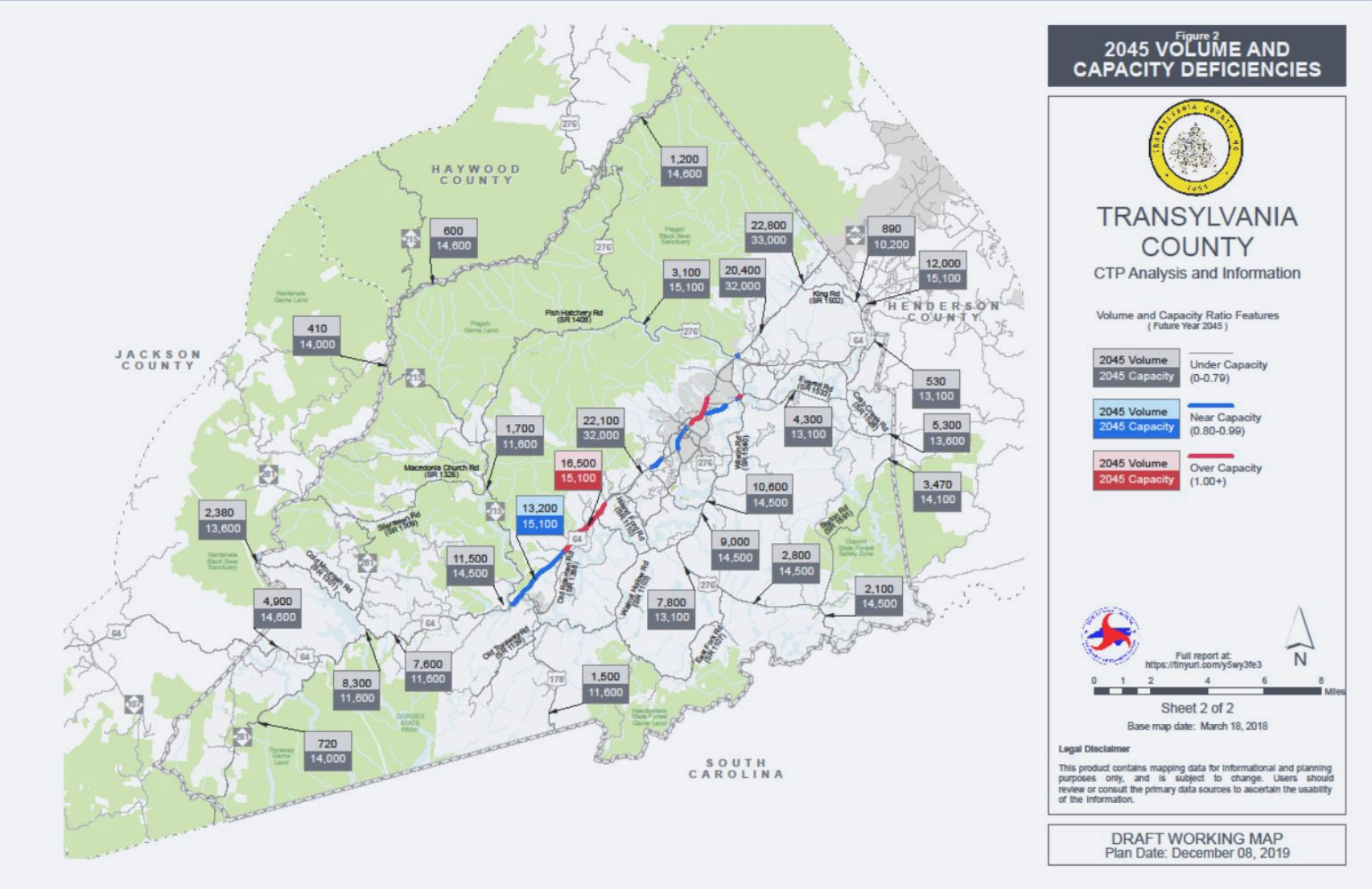
3:30 PM Targeted Seasonal Traffic Counts

3:55 PM Moving Forward Identifying Hwy Deficiencies

4:25 PM Next meeting Date?

4:30 PM Wrap-Up

Brief Recap of AADT maps



2045 Volume and Capacity Map

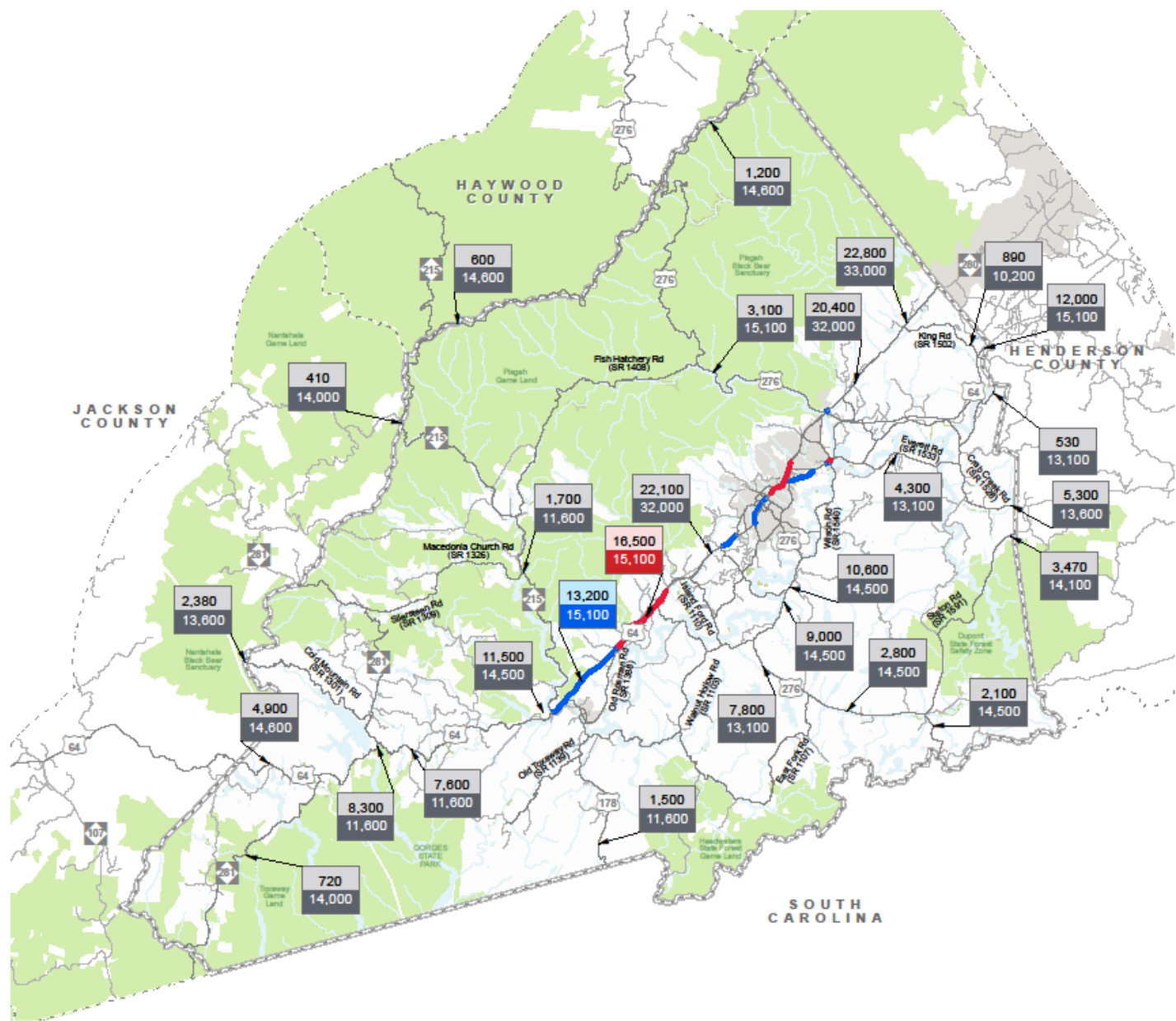




Figure 2
2045 VOLUME AND CAPACITY DEFICIENCIES



TRANSYLVANIA COUNTY
CTP Analysis and Information

Volume and Capacity Ratio Features
(Future Year 2045)

2045 Volume	Under Capacity
2045 Capacity	(0-0.79)
2045 Volume	Near Capacity
2045 Capacity	(0.80-0.99)
2045 Volume	Over Capacity
2045 Capacity	(1.00+)



Full report at:
<https://tinyurl.com/y5wy3fe3>

0 1 2 4 6 8 Miles

Sheet 2 of 2
Base map date: March 18, 2018

Legal Disclaimer
This product contains mapping data for informational and planning purposes only, and is subject to change. Users should review or consult the primary data sources to ascertain the usability of the information.

DRAFT WORKING MAP
Plan Date: December 08, 2019

2045 Volume and Capacity Map Brevard

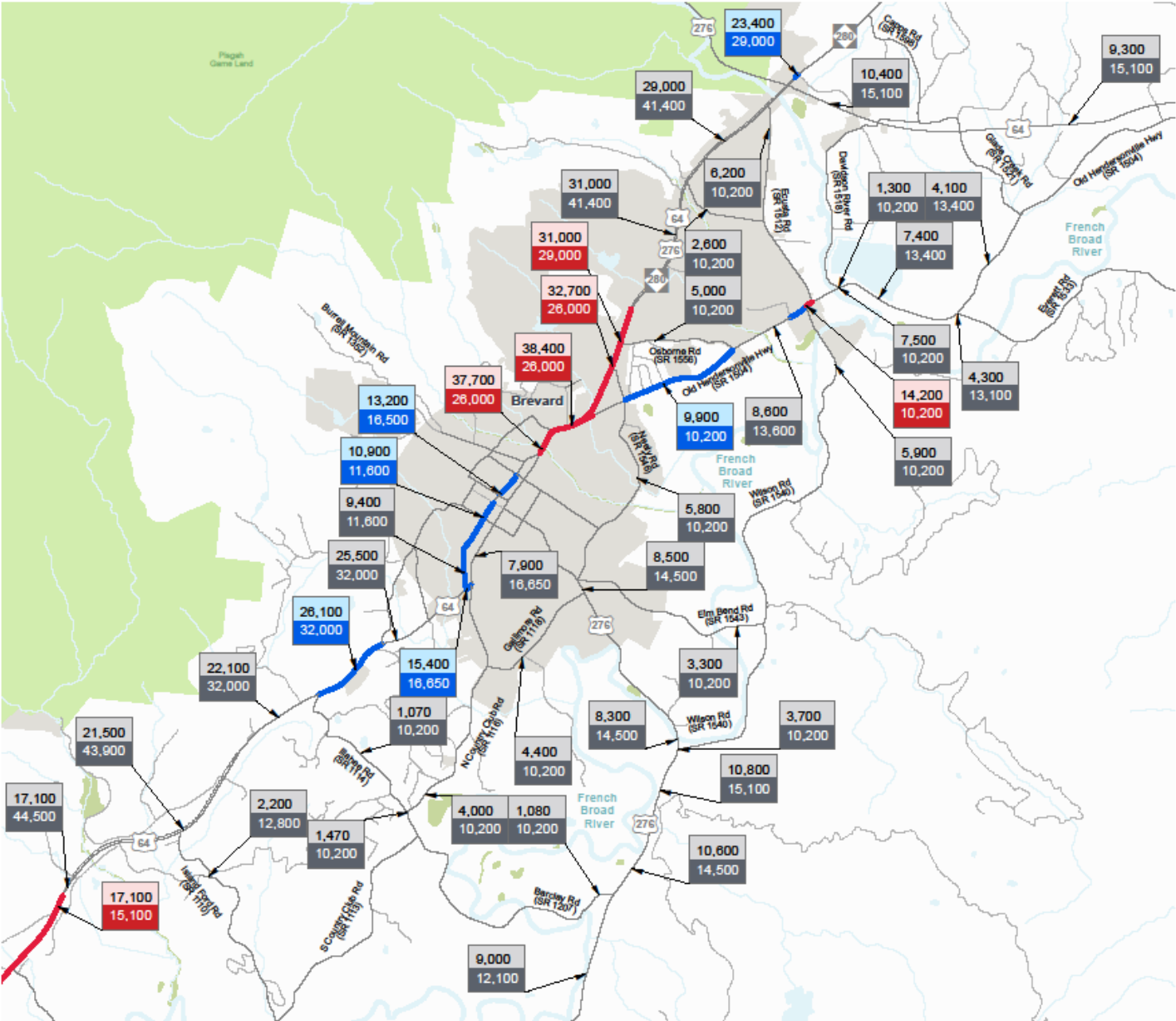




Figure 2
2045 VOLUME AND CAPACITY DEFICIENCIES



TRANSYLVANIA COUNTY
CTP Analysis and Information

Volume and Capacity Ratio Features
(Future Year 2045)

2045 Volume 2045 Capacity	Under Capacity (0-0.79)
2045 Volume 2045 Capacity	Near Capacity (0.80-0.99)
2045 Volume 2045 Capacity	Over Capacity (1.00+)



Full report at:
<https://tinyurl.com/y5wy3fe3>

Sheet 2 of 2
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DRAFT WORKING MAP
Plan Date: December 08, 2019

2045 Volume and Capacity Map Rosman

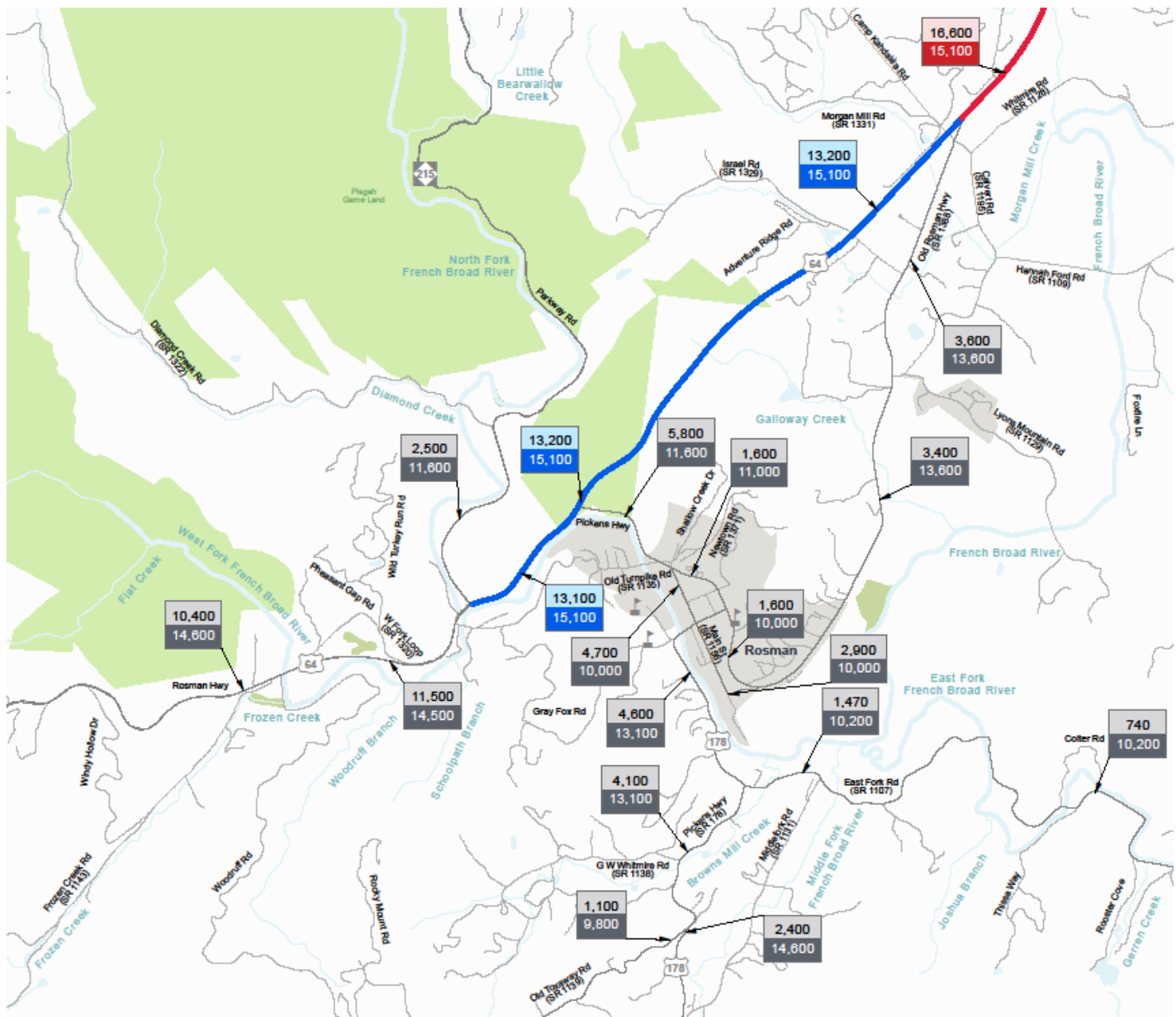



Figure 2
2045 VOLUME AND CAPACITY DEFICIENCIES


TRANSYLVANIA COUNTY
CTP Analysis and Information

Volume and Capacity Ratio Features
(Future Year 2045)

2045 Volume	2045 Capacity	Ratio
Gray	Gray	Under Capacity (0-0.79)
Blue	Blue	Near Capacity (0.80-0.99)
Red	Red	Over Capacity (1.00+)

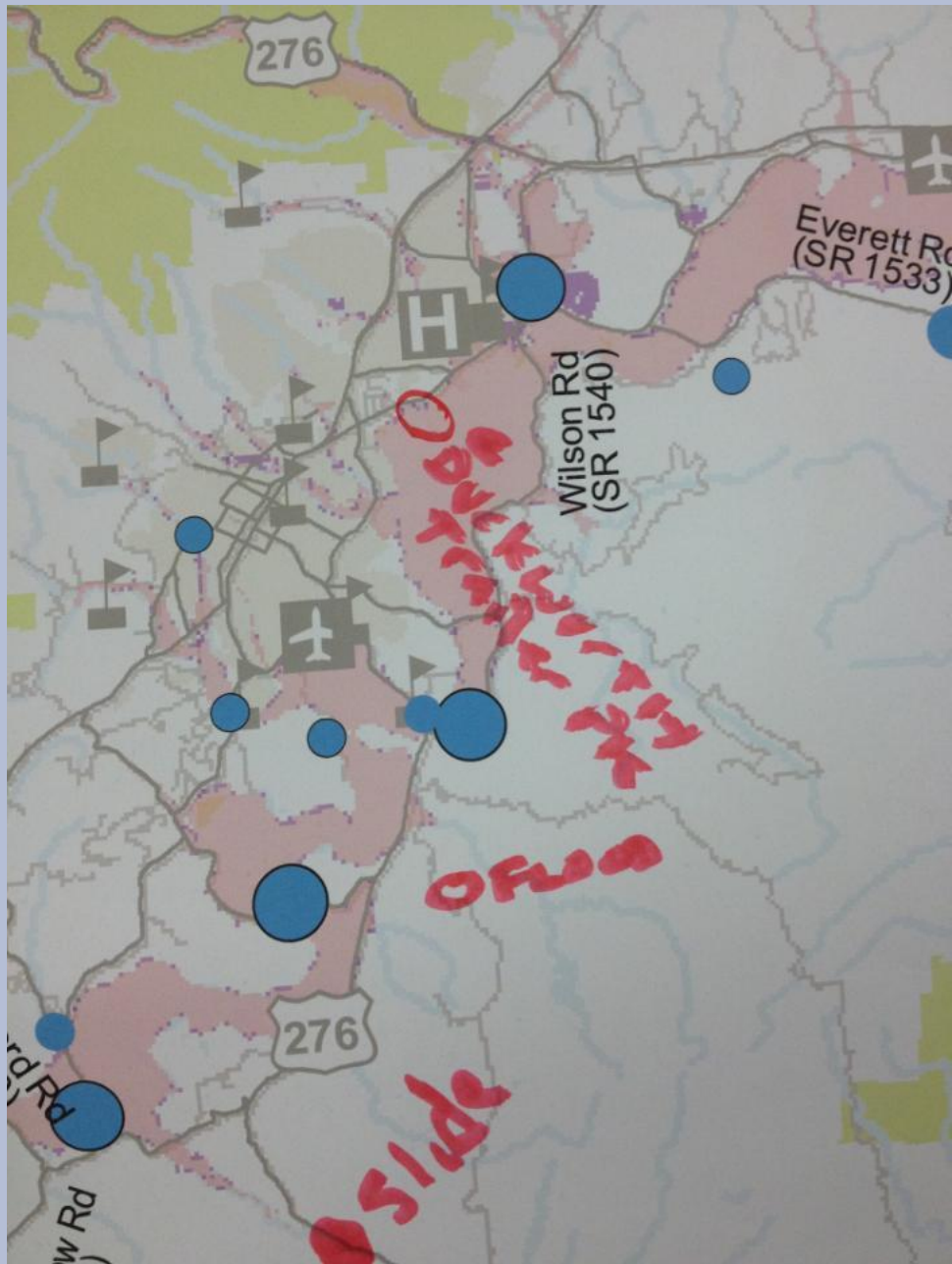
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Sheet 2 of 2
Base map date: March 18, 2018

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DRAFT WORKING MAP
Plan Date: December 08, 2019

Map Mark-up Review



Vicki Eastland, LOSRPO

Map Mark-up Review

Resiliency Map

- Several new flooding locations were noted. These will be added to the maps
- There was a note about Emergency Management. Is there something the transportation system needs to address to serve EM in times of flooding / rockslides?

Highway Map

- The idea was put forward to explore ways to shorten the travel time to Western Carolina University to 45 minutes from Brevard. This would make it a long-but doable commute. This would reduce pressure on those pursuing college from moving to Sylva. Is this something the work group thinks is worth pursuing?

Map Mark-up Review

- **Highway Map**

- There was a question about the Rail Road Ave. Extension. This is not a bypass. The project description on record is “Improve connectivity by offering an alternate route for intra-city traffic. Improve connectivity for schools and neighborhoods on west side of Brevard.” I understand how the symbology as currently shown on the maps may lead to the other impression, so I’m open to ideas about how to improve it.
- There is a note about using NC 281 to Greenville that confuses the CTP Team, is not a more likely route for people to be using US 276?
- There was a missing section on Silversteen Road that will be added to close the gap in the recommendation.

Map Mark-up Review

- **Highway Map**

- Two comments about NC 215, one about the connection to the Blue Ridge Parkway, the other a hand sketched new location north of Rosman. We assume these are describing the same project (H090162) which was evaluated in the last round of prioritization (not selected for funding), and draft environmental work points to a new location not being favored over improving existing.

Map Mark-up Review

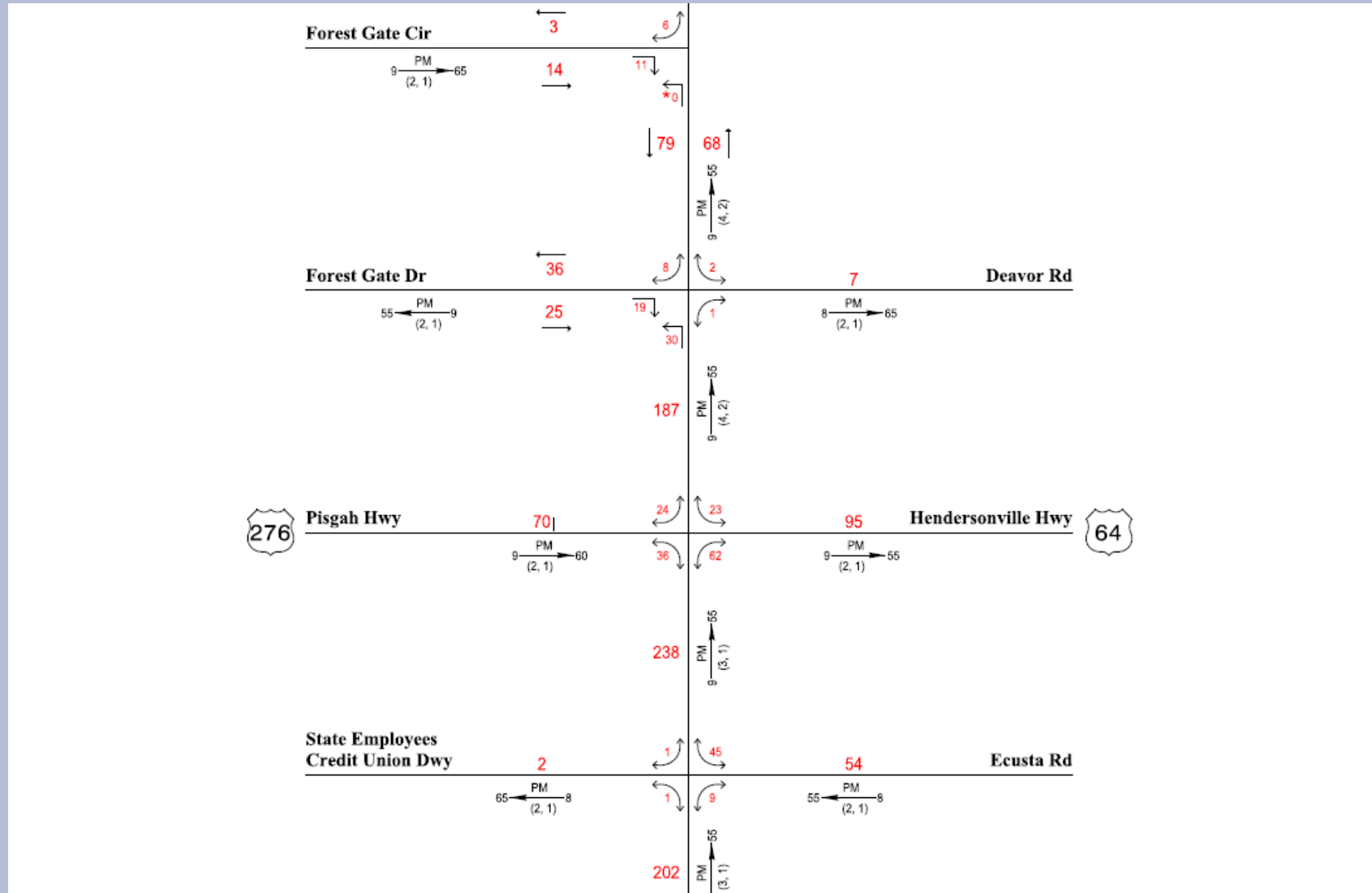
- **Highway Map**

- Various sketches of bypasses on the east side of Brevard, including one drawn on new location, those utilizing combinations of existing Wilson Road, Island Ford Road, and/or Illahee Road. This was the subject of a Feasibility Study (R-2702, May 26, 2016) and the city council made comment on it (Resolution 22-2014, June 23, 2014). CTPs focus on identifying the need and vision for a project proposal, while refinement and design happen in other efforts. So don't focus on the minutia but on making sure this proposal still meets a need in the community.

Map Mark-up Review

- **Highway Map**
- Additional locations circled/highlighted,
 - US 64 (from US 178 to Old Rosman Road),
 - US 64 (from Island Ford Road to Old Rosman Road),
 - Intersection of US 276 and Elm Bend Road (being submitted in SPOT 6.0), and
 - Intersection of US 276 and Wilson Road (being addressed as part of the Wilson Road project, R-5763).

Targeted Seasonal Traffic Counts



Daniel Seller, PE, NCDOT

Last Meeting

- In October, updated Volume to Capacity Maps were presented to the workgroup.
- The capacities projected for some rural roads were higher than comparable highways, so the team was asked to change methodologies. Updated maps are provided today.
- Last months maps also included, seasonal patterns from the Travel Demand Model (TDM), unsatisfied the workgroup asked the team to explore additional sources of data.
- Today we will explore new and old traffic counts, data from the Transylvania County Tourism Analysis, data from Dupont State Recreation Forest (DSRF), and other efforts underway.

Current Efforts Underway

- The Peak Average Daily Traffic (PADT) statistic is used in generating objective measures for ranking proposed improvement projects for prioritization. NCDOT is conducting a project to update the factors used to generate PADT estimates. This is a 4-year project where 25 counties will be updated each year. This involves collecting seasonal counts at a sampling of stations in a county to directly calculate updated factors and then expanding that sample to all stations being updated. We will be updating factors on all US and NC routes (about 12,000 stations) and are collecting a sample of SR routes for updating default factors for those routes.
- The counties being updated in 2020 are:
 - Bertie, Cabarrus, Catawba, Chatham, Clay, Craven, Cumberland, Currituck, Dare, Forsyth, Henderson, Johnston, Jones, Lenoir, Madison, McDowell, New , Perquimans, Polk, Robeson, Rowan, Scotland, Transylvania, Wake, Wilkes

Current Efforts Underway

- **Five counts were requested after the October 8 meeting**
 - US 276 West of US 64/NC280
 - US 64 East of Paul McCoy Road (SR 1144)
 - NC 280 North of Hudlin Gap Road (SR 1510)
 - Dupont Road (SR 1259) South of Crab Creek Road (SR 1127)
 - Staton Rd (SR 1591) North of Dupont Ln (SR 1593)
- **Two counts from earlier this year were found in the archives**
 - SR 1518 (Davidson River Road) at US 64 (Hendersonville Highway)
 - US 64 (Asheville Highway) at SR 1512 (Ecusta Road)
- While the five counts were anticipated to be done in October to capture leaf season, that was only successful for US 64, US 276, and Staton Rd. NC 280 and Dupont were collected in early November by the contractor.

Targeted Seasonal Traffic Counts

Automatic Traffic Recorder (ATR) Groups

- Group 1: "The most dominant group in the State. Mostly rural in nature and is predominantly used for count locations on nonurban primary routes and all rural and most urban secondary roads."
- Group 2: This group is generally applied to count locations on primary routes (US and NC routes) that provide regional access to recreational areas. These facilities are typically located in the eastern and western areas of the State.
- Group 3: "Generally assigned to roads in the coastal and mountain regions. This group is characterized by recreational land use and areas subject to greater seasonal variation. Factors from this group are predominantly applied to primary routes (US and NC routes) located at or within recreational areas. Some local routes located in the mountain region have this group assignment. "

Targeted Seasonal Traffic Counts

Automatic Traffic Recorder (ATR) Groups

- Group 4: "Predominantly found in areas where land use is characterized as urban, with dense, mixed development. Factors from this group are predominantly applied to urban primary routes and higher volume secondary and local routes in large urban areas."
- Group 5: " Primarily confined to the I-95 corridor and routes directly influenced by I-95 traffic."
- Group 6: " Primarily found in the mountain region of the state. Used at locations strongly influenced by recreational land uses with high seasonal variation."
- Group 7: " Limited to the extreme eastern coastal routes (Outer Banks). Characterized by very high seasonal variation."

NC 280 North of Hudlin Gap Road (SR 1510)

November 12-13, 2019

ADT	11,600	11,800
AADT	14,500	
Equivalent Seasonal Factor	125%	125%

ATR 1	97-100%
ATR 2	109-113%
ATR 3	140-141%
ATR 4	90-94%
ATR 5	86-121%
ATR 6	169-194%
ATR 7	162-167%

US 64 at Davidson River Rd (SR 1518)

February 12, 2019

ADT	9100	8300
AADT	9800	8200
Equivalent Seasonal Factor	107%	98%

ATR 1	107%
ATR 2	126%
ATR 3	167%
ATR 4	94%
ATR 5	149%
ATR 6	350%
ATR 7	200%

US 64 at Ecusta Road (SR 1512)

March 3, 2019

ADT	24,100	27,050
AADT	25,000	27,000
Equivalent Seasonal Factor	97.5%	99.8%

ATR 1	105%
ATR 2	126%
ATR 3	167%
ATR 4	93%
ATR 5	133%
ATR 6	184%
ATR 7	160%

US 64 East of Paul McCoy Road (SR 1144)

October 29-30, 2019

ADT	6400	5400
AADT	5600	
Equivalent Seasonal Factor	87%	104%

ATR 1	96-99%
ATR 2	98-99%
ATR 3	114-116%
ATR 4	91%
ATR 5	137-139%
ATR 6	66-69%
ATR 7	106-109%

US 276 West of US 64/NC280

October 29-30, 2019

ADT	3550	1500
AADT	1800	
Equivalent Seasonal Factor	50%	120%

ATR 1	96-99%
ATR 2	98-99%
ATR 3	114-116%
ATR 4	91%
ATR 5	137-139%
ATR 6	66-69%
ATR 7	106-109%

US 276 West of US 64/NC280

	Q1	Q2	Q3	Q4
Total Brevard Tourists	9,303	14,883	16,130	12,910
Pisgah Cross Visitors	732	1,542	1,855	1,448
Dupont Cross Visitors	379	763	965	782

Transylvania County Tourism Analysis -Uber Media

Pisgah National Forest PNF	Q1	836
	Q2	2554
	Q3	3395
	Q4	2378
		9163

Brevard	143%	89%	82%	103%
PNF	274%	90%	67%	96%
Population	123%	93%	88%	102%
ATR 1	104%	94%	94%	98%
ATR 2	119%	98%	92%	104%
ATR 3	155%	94%	86%	129%
ATR 6	274%	113%	83%	167%

Dupont Rd (SR 1259) South of Crab Creek Rd (SR 1127)

November 5-6, 2019

ADT	1700	2050
AADT	1500	
Equivalent Seasonal Factor	89%	72%

ATR 1	97-100%
ATR 2	109-113%
ATR 3	140-141%
ATR 4	90-94%
ATR 5	86-121%
ATR 6	169-194%
ATR 7	162-167%

Staton Rd (SR 1591) North of Dupont Ln (SR 1593)

October 29-30, 2019

ADT	1350	900
AADT	1500	
Equivalent Seasonal Factor	111%	170%

ATR 1	96-99%
ATR 2	98-99%
ATR 3	114-116%
ATR 4	91%
ATR 5	137-139%
ATR 6	66-69%
ATR 7	106-109%

Dupont State Recreation Forest (DSRF)

Visitor Center Counts Fiscal Year 2017-2018		Visitor Center Counts Fiscal Year 2018-2019	
Month	Visitors	Month	Visitors
July 2017	15465	July 2018	13551
August 2017	10849	August 2018	8868
September 2017	8793	September 2018	6973
October 2017	10814	October 2018	9318
November 2017	5992	November 2018	8420
December 2017	3394	December 2018	1218
January 2018	1054	January 2019	1054
February 2018	1155	February 2019	1207
March 2018	4757	March 2019	5249
April 2018	6299	April 2019	6619
May 2018	7210	May 2019	7969
June 2018	10150	June 2019	9348
Total 85932		Total 78431	

Table 1 – Visitor Center Counts for FY 18 and FY 19

	2017-2018	2018-2019	ATR 6
July	46%	49%	62%
August	66%	75%	85%
September	81%	95%	102%
October	66%	71%	60%
November	120%	79%	150%
December	211%	546%	290%
January	679%	631%	355%
February	620%	551%	286%
March	151%	127%	182%
April	114%	100%	133%
May	99%	83%	125%
June	71%	71%	79%

Moving Forward...

Identify Highway Deficiencies addressed in CTP

<u>Map ID</u>	<u>TIP No.</u>	<u>Location Description</u>	<u>Status</u>	<u>Type</u>
11	H170396	US 64 from US 178 to existing 4-lane	Proposed	Address congestion and improve system coherency by widening to 4-lane Divided
12		US 64 from South Broad Street to existing 4-lane.	Proposed	Replace center lane with median.
13	H170251	NC 280 from US 276 to Henderson County	Proposed	Replace center lane with median.
14*		Intersection of US 276 and Parkview Drive	Proposed	Improve Intersection
15*		Intersection of Cascade Lake Road and Crab Creek Road	Proposed	Improve Intersection
16*		NC 215 and US 64	Proposed	Improve Intersection
17	R-5743	Railroad Avenue Extension, partially new location partially existing	Proposed	Improve connectivity for schools and neighborhoods on west side of Brevard.

Moving Forward

- Last month we presented data from the Travel Demand Model which used Socio-Economic factors to project seasonality.
- This month we augmented that with new traffic counts, forest, and tourism reports.
- Some locations seem to indicate different ATR groups than currently prescribed, and some seem to fall between categories. Each may serve as a keystone to understanding additional areas.
 - NC 280 North of Hudlin Gap Road (SR 1510)
 - SR 1518 (Davidson River Road) at US 64 (Hendersonville Highway)
 - US 64 (Asheville Highway) at SR 1512 (Ecusta Road)
 - US 64 East of Paul McCoy Road (SR 1144)
 - Dupont Road (SR 1259) South of Crab Creek Road (SR 1127)
 - Staton Rd (SR 1591) North of Dupont Ln (SR 1593)
 - US 276 West of US 64/NC280
- While one data point does not make a pattern, this can give us some clues to conduct more analysis. Ultimately more data would be useful.

Moving Forward

- Example CTP Proposal
 - “Further study is recommended to confirm US 276 west of US 64/NC 280 may have seasonal variants - not fully expressed by AADT - which cause traffic congestion, delay, and/or reliability.”
 - Recommendation to collect data sufficient in detail to refine proposals or recommend additional ones.
 - See your Project Sheet for an example of what this may entail
- Once the additional data is collected, it can be adjoined to the 2020 data collection efforts and the CTP amended with any additional recommendations.
 - Amendments and Revisions to the CTP can be completed in short timeframes

Moving Forward

- So moving forward as a group we need to identify the deficiencies we want addressed in the CTP.
- Keeping in mind there are current ongoing data collection efforts and additional efforts can potentially be pursued to inform the CTP.

Existing Projects

<u>Map ID</u>	<u>TIP No.</u>	<u>Location Description</u>	<u>Status</u>	<u>Type</u>
1	U-5104	Caldwell Street from Probart Street to US 64	Complete	Roadway with Multi-Modal Components
2	R-2409C	US 64, Lake Toxaway to Indian Creek	Complete	Improve alignment, lane widths, shoulders, and climbing lanes
3	R-5605	Davidson River Village Connector from US-64 to US-276/US-64 in Pisgah Forest	Under Construction	New Location Roadway with Multi-Modal Components
4*	R-5799	Pisgah Forest Intersection	Under Design	Intersection/Bike and Pedestrian
5	R-5800	Asheville Highway, US 276	Under Design	Access Management
6	R-5763	Wilson Road	Under Design	Improve alignment, lane widths, and shoulders
7	R-5865	US 276 in Pisgah Forest	Under Design	3 lane cross section with bike facilities
8	EB-5858	Davidson River Pedestrian Bridge	Under Design	Bike and Pedestrian Bridge across Davidson River near Pisgah Forest
9*	R-5882	Rosman Highway, North Country Club, Caldwell Street	In Draft STIP	Intersection Improvements
10	R-5919	US 178, Rosman	In Draft STIP	Improve alignment, lane widths, and shoulders

Proposed Hwy Projects

<u>Map ID</u>	<u>TIP No.</u>	<u>Location Description</u>	<u>Status</u>	<u>Type</u>
11	H170396	US 64 from US 178 to existing 4-lane	Proposed	Address congestion and improve system coherency by widening to 4-lane Divided
12		US 64 from South Broad Street to existing 4-lane.	Proposed	Replace center lane with median.
13	H170251	NC 280 from US 276 to Henderson County	Proposed	Replace center lane with median.
14*		Intersection of US 276 and Parkview Drive	Proposed	Improve Intersection
15*		Intersection of Cascade Lake Road and Crab Creek Road	Proposed	Improve Intersection
16*		NC 215 and US 64	Proposed	Improve Intersection
17	R-5743	Railroad Avenue Extension, partially new location partially existing	Proposed	Improve connectivity for schools and neighborhoods on west side of Brevard.

Workgroup Identified Hwy Deficiency Projects

<u>Map ID</u>	<u>TIP No.</u>	<u>Location Description</u>	<u>Type</u>	<u>Identified Purpose</u>
		Targeted Seasonal Data Collection: -US 276 West of US 64/NC280	Other	Further study is recommended to confirm US 276 west of US 64/NC 280 may have seasonal variants - not fully expressed by AADT - which cause traffic congestion, delay, and/or reliability
		Yet to be identified Primary Route between Brevard and Sylva	Mobility	Achieve or maintain a 45 minute travel time to Western Carolina University
		US 64 (N Broad Street) from N Caldwell Street to Old Henderson Highway (SR 1504)	Congestion	Address anticipated 2045 capacity deficiency
		US 176 from Middleform Road (SR 1133) to South Carolina	Modernization	Improve alignment, lane widths, and shoulders to current design standards
		US 276 from Wilson Road (SR 1540) to South Carolina	Modernization	Improve alignment, lane widths, and shoulders to current design standards
		US 276 from Avery Creek Trail Head to Fish Hatchery Road (SR 1408)	Modernization	Improve alignment, lane widths, and shoulders to current design standards
		US 276 from Gallimore Road (SR 1118) to Wilson Road (SR 1504)	Modernization & Resiliency	Improve alignment, lane widths, and shoulders to current design standards. Improve Resiliency to flooding
		NC 215 from US 64 to Macedonia Church Road (SR 1326)	Modernization	Improve alignment, lane widths, and shoulders to current design standards
		NC 281 from US 64 to Cold Mountain Rd	Modernization	Improve alignment, lane widths, and shoulders to current design standards
*		Becky Mountain Road (SR 1538) at US 276	Resiliency	Improve Resiliency to Flooding

Workgroup Identified Hwy Deficiency Projects

<u>Map ID</u>	<u>TIP No.</u>	<u>Location Description</u>	<u>Status</u>	<u>Type</u>
		Carolina Avenue from US 64 to existing 20' crossection	Modernization	Improve alignment, lane widths, and shoulders to current design standards
*		Cascade Lakes Road (SR 1536) at Crab Creek	Resiliency	Improve Resiliency to Flooding
		Country Club Road (SR 1116 & SR 1115) from Gallimore Road (SR 1118) to Island Ford Road (SR 1110)	Modernization	Improve alignment, lane widths, and shoulders to current design standards
	H111128	Crab Creek Road (SR 1528) from US 64 to Henderson County - Dupont Road (SR 1259)	Modernization & Resiliency	Improve alignment, lane widths, and shoulders to current design standards. Improve Resiliency to flooding
		East Fork Road (SR 1107) from US 176 to Walnut Hollow Road (SR 1103)	Modernization	Improve alignment, lane widths, and shoulders to current design standards
	H150561	Ecusta Road (SR 1512) from US 64 to Old Henderson Highway (1504)	Modernization	Improve alignment, lane widths, and shoulders to current design standards
		Elm Bend Road (SR 1543) from US 276 to Wilson Road (SR 1504)	Modernization & Resiliency	Improve alignment, lane widths, and shoulders to current design standards. Improve Resiliency to flooding
		Everett Road (SR 1533) from Old Henderson Highway (1504) to Crab Creek Road (SR 1528)	Modernization	Improve alignment, lane widths, and shoulders to current design standards
		French Broad Street (SR 1544) from US 64 to Neely Road (SR 1546)	Modernization	Improve alignment, lane widths, and shoulders to current design standards
		Gallimore Road (SR 1118) from S 276 to N Country Club Road (SR 1116)	Modernization	Improve alignment, lane widths, and shoulders to current design standards
*		Hanna Ford Road (SR 1127) at Limekiln Branch of the French Broad River	Resiliency	Improve Resiliency to Flooding

Workgroup Identified Hwy Deficiency Projects

<u>Map ID</u>	<u>TIP No.</u>	<u>Location Description</u>	<u>Status</u>	<u>Type</u>
*		Intersection of US 276 and Elm Bend Road (SR 1543)	Safety	Improve Aliegnment of Intersection
		Island Ford Road (SR 1110) from US 64 to US 276	Modernization & Resiliency	Improve alignment, lane widths, and shoulders to current design standards. Improve Resiliency to flooding
		King Road (SR 1502) from US 64 to NC 280	Modernization	Improve alignment, lane widths, and shoulders to current design standards
		Main Street (SR 1156) from US 176 to Old Rosman Road (SR 1388)	Resiliency	Improve Resiliency to Flooding
*		Merrill Lane at Little River	Resiliency	Improve Resiliency to Flooding
		Neely Road (SR 1546) from Old Henderson Highway (1504) to French Broad Street (SR 1544)	Modernization	Improve alignment, lane widths, and shoulders to current design standards
	H170395	Old Henderson Highway (1504) from Chestnut (SR 1610) to Ecusta Road (SR 1512)	Modernization	Improve alignment, lane widths, and shoulders to current design standards; and address potential 2045 capacity deficiency
		Old Henderson Highway (1504) from Ecusta Road (SR 1512) to	Modernization	Improve alignment, lane widths, and shoulders to current design standards
		Silversteen Rd (SR 1309) / Macedonia Church Road (SR 1326) from NC 215 to Jackson County	Modernization	Improve alignment, lane widths, and shoulders to current design standards

Future Meetings

- Approximately Monthly
- 3:00 PM – 4:30 PM
- Next Meeting February 11th, 2020
- Board of Elections (unless otherwise noted)



Contact info for your team

- Vicki Eastland, Land of Sky RPO, vicki.eastland@landofsky.org 828-251-6622
- Daniel Sellers, NCDOT TPD, dc sellers1@ncdot.gov 919-707-0978
- Steve Williams, NCDOT Division 14, sjwilliams@ncdot.gov 828-586-2141
- Troy Wilson, NCDOT Division 14, tswilson@ncdot.gov 828-586-2141
- Lonnie Watkins, NCDOT Division 14, lnwatknis@ncdot.gov 828-891-7911

A blue 3D stick figure is holding a white rectangular sign with rounded corners and a black border. The sign contains the text "QUESTIONS?" and "COMMENTS?". The figure is positioned behind the sign, with its arms extended to hold it.

QUESTIONS?
COMMENTS?